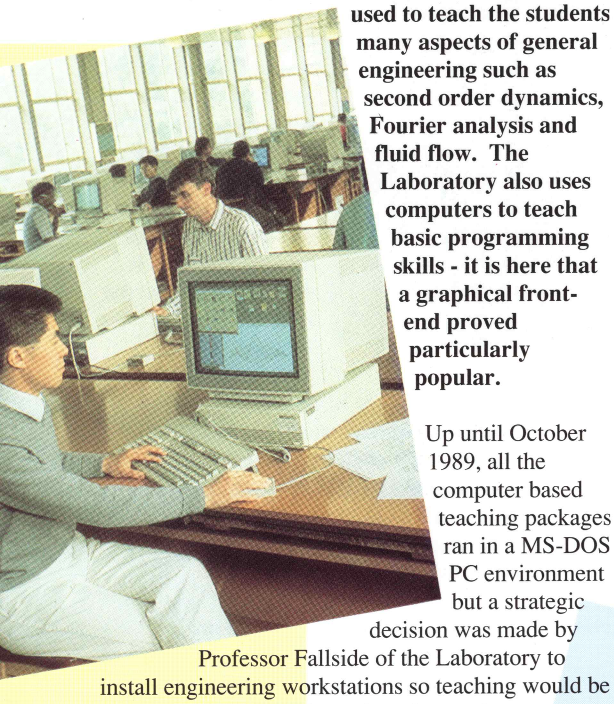
X. desktop™ User Stories

With today's emphasis on increasing productivity right across the workplace, Graphical User Interfaces (GUIs) was playing a vital role in boosting a computer users' productivity through their ease of use and low training requirement.

A crucial component of any GUI is the desktop manager, shielding the user from the operating system. It is important that the desktop manager is intuitive, offers powerful object management facilities and provides a consistent interface across all the major UNIX systems.

IXI's X.desktop meets these criteria and has now emerged as the leading desktop manager for UNIX systems. X.desktop makes running software and managing information in a sophisticated "Open Systems" environment easy. Two X.desktop users, University of Cambridge and X.Solutions, highlight their experiences with the software.

University of Cambridge



The Engineering Laboratory at the University of Cambridge was founded in 1875 and despite its ancient lineage, it is one of the most advanced university laboratories in England. Computers are used to teach the students many aspects of general engineering such as second order dynamics, Fourier analysis and fluid flow. The Laboratory also uses computers to teach basic programming skills - it is here that a graphical front-end proved particularly popular.

Up until October 1989, all the computer based teaching packages ran in a MS-DOS PC environment but a strategic decision was made by Professor Fallside of the Laboratory to install engineering workstations so teaching would be carried out in a realistic engineering environment. According to Professor Fallside, the choice of operating system was simple, "In the engineering field, UNIX is the industry standard operating system".

The Laboratory installed more than 100 Hewlett-Packard workstations as clusters of HP9000/340C+ diskless machines containing a core fileserver for each cluster and two HP9000/835S machines for user files and large numerical jobs, all networked by Ethernet. Students have only ten one hour sessions to learn the principles of structured programming using Pascal and do not have time to learn the inner workings of UNIX. What was needed was a WIMP interface that shielded users from the UNIX command line.

Professor Fallside chose X.desktop and incorporated the software into the teaching schedule at neck breaking speed. Within 3 weeks of the hardware arriving, the software was ready and teachers trained up to use the package. Shortly after this, the system was introduced to the students.

The main function of the user interface is to provide a clean, uncluttered view of UNIX that is not only quick to grasp but also intuitive to use. The key to its ease of use is the X.desktop drag-and-drop mechanism. Editing or printing a file is simply a matter of selecting the file with the mouse, dragging to the processor icon and letting go - to delete, the file is dropped onto the wastebin icon.

The power of this drag and drop mechanism is demonstrated in the Pascal programming course. Here, students are presented with an incomplete source code listing which they have to edit to make a runable program. They then compile it themselves to see if the additions are correct. Throughout the practical, students are unaware that UNIX is running in the background but can concentrate on learning the principles of this structured language.

> ***"Unix is as painless as we dared hope."***

When the practical starts, all relevant files and programs are automatically loaded onto the desktop. A compiler directory contains all files and programs relevant to the practical and there is also a compiler program - both icons sit on the desktop so they are accessible.

There are various incomplete source code listings in the compiler directory. The student copies one of the listings, invert.p, over to their own directory where

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they will set about completing the listing correctly.

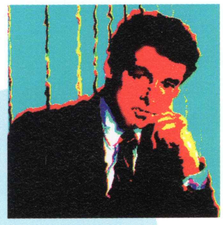
To edit the file, it is dropped onto the Emacs editor and a window opens up showing the contents of the Pascal source file. Once editing is complete, the file is saved and then compiled by dropping onto the compiler icon. New icons are created as the compilation driver produces first an object file and then an executable file.

Feedback results of the compilation are given through pop-up dialogue boxes. An example dialogue box might read "Ouch! Failed to compile invert.p successfully". Dialogue boxes are used throughout other practicals to give outcome of experiments or let the student know that a request is being processed. All the dialogue boxes are configurable and provide a powerful way to tailor the desktop for different scenarios.

Tim Love, the project programming advisor, with a small team of programmers configured the X.desktop 2.0 rule files which control the behaviour of the desktop.

"X.desktop has made the transition from a PC (and sometimes windowless) environment to a Unix one as painless as we had dared hope", commented Love. "We found we could seamlessly integrate programs originally run on PCs or dumb terminals into the X.desktop environment providing a common look and feel across applications and do this is a surprisingly short time."

X. Solutions



The paperless office may not be too far away with a document storage and management system such as Archium from X.Solutions of Warlingham, England. A finalist in the Santa Cruz Operation's Product of the Year 1991, Archium provides an easy way to quickly browse and retrieve documents, diagrams and paperwork.

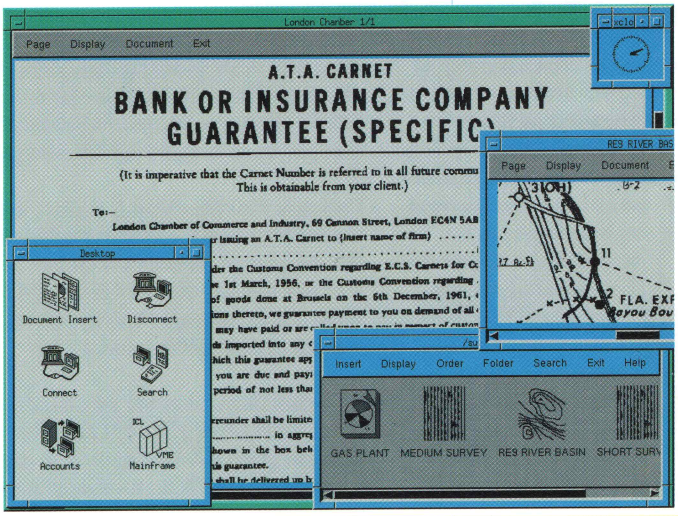
When X.Solutions started delivering their software into the commercial marketplace, it soon became obvious the company need to integrate their fully featured Motif application with a desktop manager. Ease of use with any computer system starts with the desktop manager and extends through to the application itself.

"X.desktop was the logical choice for us as it is widely available on most UNIX platforms, all we had to do was provide the necessary hooks into X.desktop," said Gary Seymour, Managing Director of X.Solutions. "We wanted to provide our users with a complete graphical user environment so they can easily access the storage and retrieval facilities using this intuitive, iconic interface."

> ***"Complex operations couldn't be simpler."***

All documentation can be scanned, archived and indexed within Archium and once stored onto optical or magnetic media, it can be retrieved onto the screen and printed when required.

At the heart of Archium is a network transparent relational database for storing the data files. Users can access the image database from anywhere on the network, so they can interrogate the company's filing system from their office PCs or display terminals, while still using their word processing or spreadsheet software.



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By configuring the rule files in the user's home directory, different types of users get a different view of the document database. For example, X.desktop would display to a user in accounts icons giving access to invoices and despatch notes but someone in contracts would have controlled access to the legal filing system.

X.Solutions has taken advantage of the concept of an object - this encapsulates information about a particular file or group of files into a single icon. Icons on the desktop have been individually tailored to give users quick access to the tools and areas they use most often in the course of their work. For example, messages coming in via fax or email would be stored remotely and printed off when the user clicks on the "Print today's messages" icon.

"We used the idea of a non-file object so that user id's could be represented as an icon and documents can be shipped around the network by dropping an icon on the user's name," commented Seymour. "In reality, all we're changing are the pointers to that particular document in the database but the user is unaware of this."

By increasing the size of the fonts on the menus, dialog boxes and other elements of the user interface, X.Solutions provides support for Archium and X.desktop on touch screens. This is ideal for anyone who wants a simpler way of access documents, perhaps for those unfamiliar with using a mouse.

"We are migrating to X.desktop 3.0 so we can take advantage of the advanced object behaviour in the new release," concluded Seymour. "We see X.desktop as a way of simplifying complex operations. Objects allow us to automate these operations, all the user has to do is double clicking on the icon. Couldn't be simpler."

Anyone who needs regular access to large amounts of documentation is a candidate for Archium. They could be solicitors accessing conveyancing records, geologists analysing seismic surveys or local government controlling housing benefits or the community charge.

X.Solutions has integrated Archium alongside database and accounting systems so that paper documents can be stored and retrieved from these systems. The company has already demonstrated seamless integration with Tetra Chameleon whereby paper invoices, despatch and delivery notes can be stored and instantly retrieved from Tetra screens.

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